

Figure 1: Printing and Plating. Typical schematic procedure for making stamp from photoresist master pattern, inking with thiol, stamping thiol on gold to form SAM protective pattern, etching away unprotected gold, electroless plating of copper

lines on top of remaining gold.

"Master"

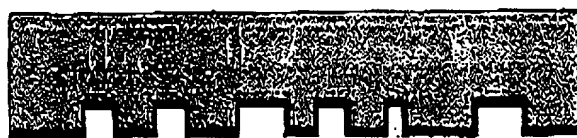
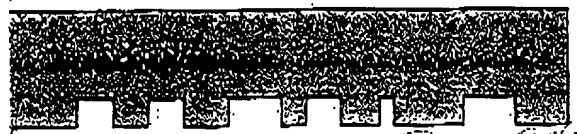


Cure



Glass removed

"Stamp"



Thiol Ink (SAM)

Thiol Au



Thiol Ink (SAM)



Etched Au



Glass

Electroless Copper



Glass

Figure 2: Standard one-step curing me

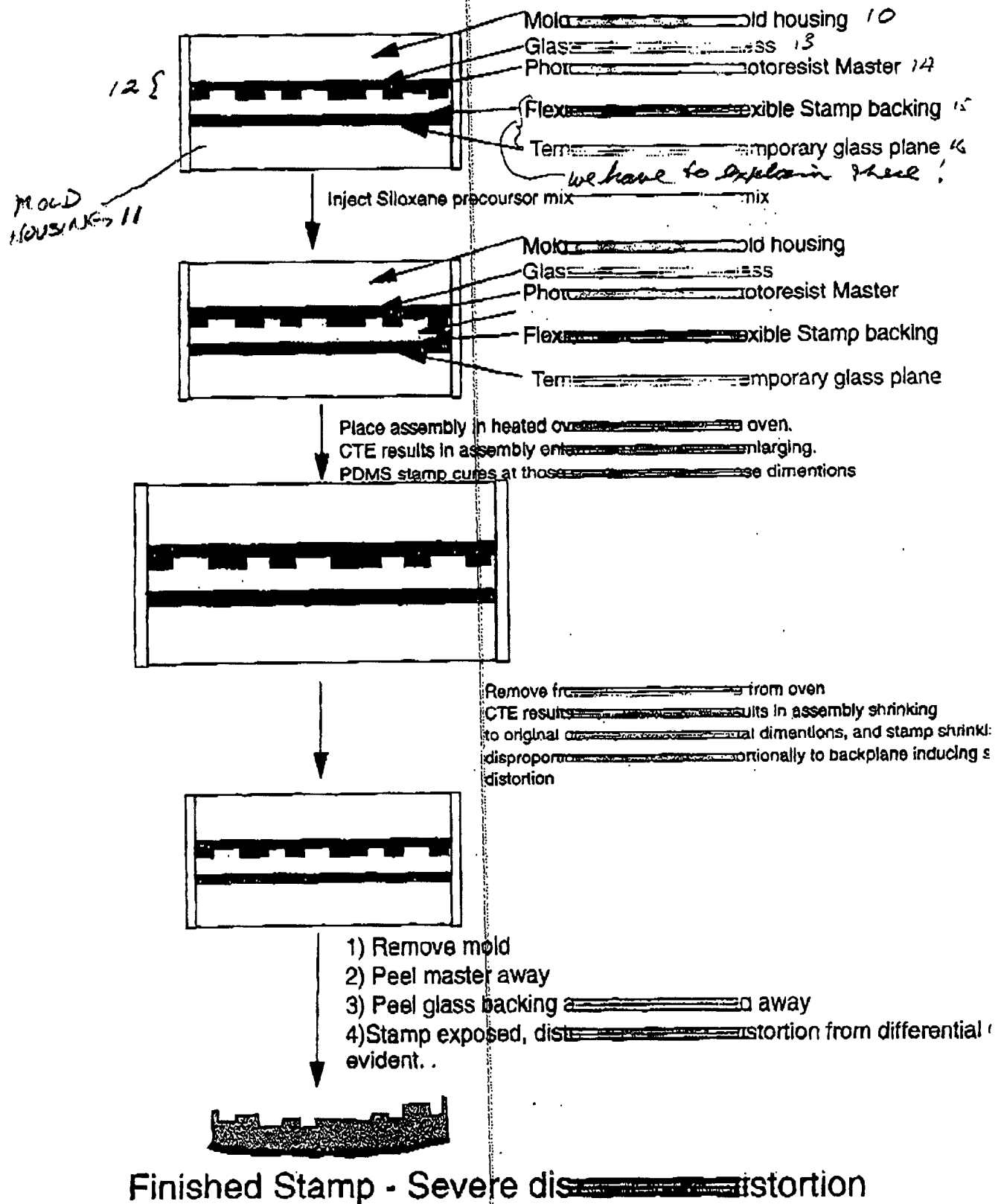
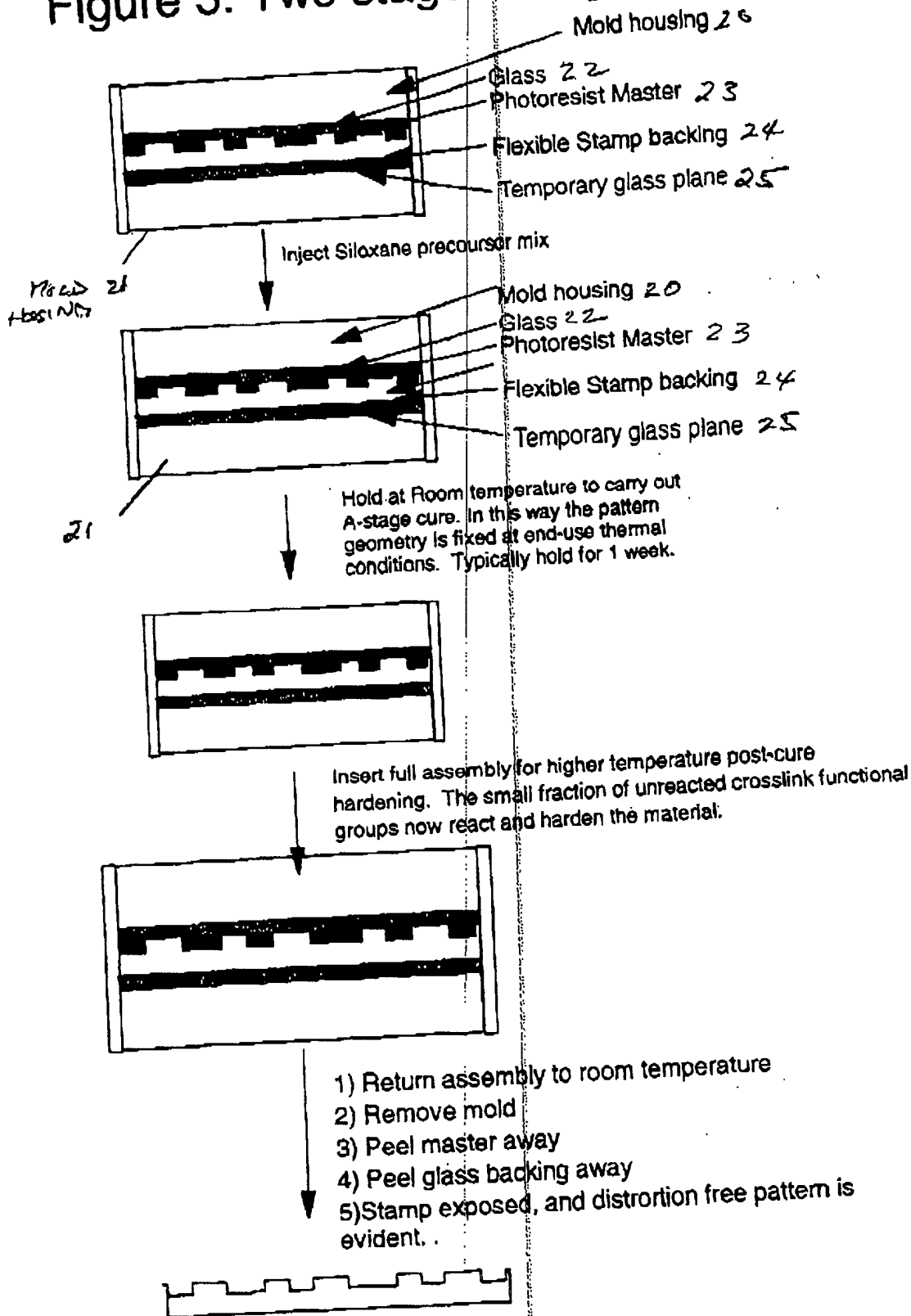


Figure 3: Two stage curing of siloxane stamp.



Finished Stamp - Little distortion evident

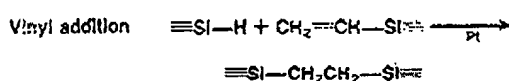
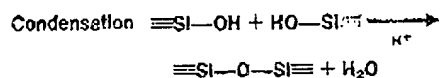
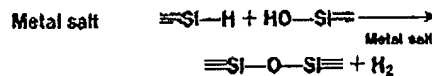
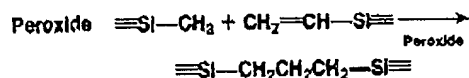
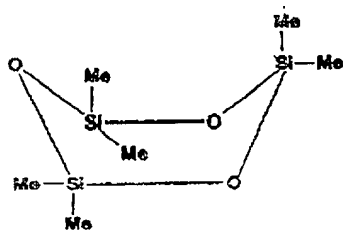
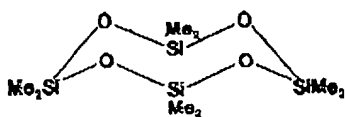


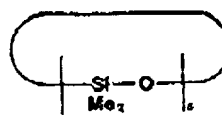
Figure 4 Silicone curing systems



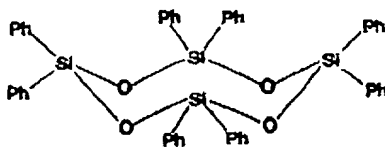
Hexamethylcyclotrisiloxane



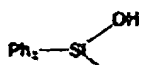
Octamethylcyclotetrasiloxane



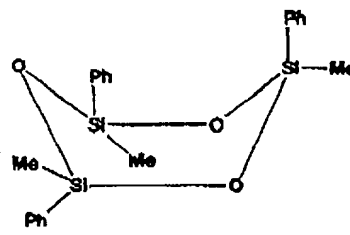
Decamethylcyclopentasiloxane



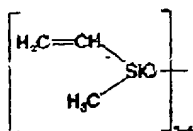
Octaphenylcyclotetrasiloxane



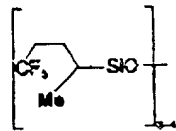
Diphenylsilanediol



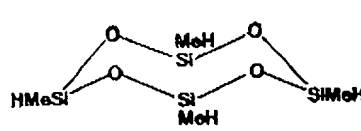
Trimethyltriphenylcyclotrisiloxane



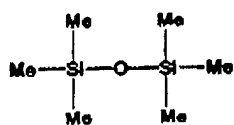
Vinylmethylcyclosiloxanes



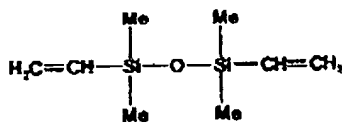
Trifluoropropylmethylcyclosiloxanes



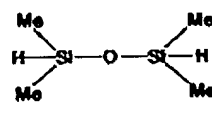
Methylhydrocyclosiloxane



Hexamethyldisiloxane



Divinyltetramethyldisiloxane



Tetramethyldisiloxane

Figure 5 Silicone monomers and terminators